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A NEW SPECIES OF HORNED TREE-TOAD FROM  
PANAMA.

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The discovery of a species of *Cerathyla* in Panama adds a new genus to the batrachian fauna of the Isthmus. This genus has been known hitherto only from the Andes of Ecuador, Bolivia and Peru. It is not only one of the rarest genera in collections, but its aspect is also very singular, due to the large triangular head with its bony casque posteriorly extended as two pointed horns, and the dermal flaps on snout and eyelids. Its mode of propagation is equally peculiar.

The specimen and its young, which form the basis of the following description, was collected by Mr. Charles Gordon Holland, Asst. Paymaster, U. S. N., while attached to the U. S. S. *Leonidas*, on May 20, 1915, at Signal Loma (Loma Peak) on the north coast of Panama three miles south of San Isabel.

***Cerathyla panamensis* sp. nov.**

*Diagnosis*.—Edge of upper eyelid medially with a triangular dermal pyramid ending in a pointed conical tubercle; snout with a short slender pointed dermal appendage; tibio-tarsal joint not reaching tip of snout; tongue longer than wide; distance from extremity of one of the lateral processes of helmet to the other less than its distance from the tip of snout, and less than two and one-half times the interorbital width; interorbital width more than three times the distance between nostrils, more than twice the width of upper eyelid; distance from nostrils to tip of snout nearly equalling their distance from orbits and nearly twice their distance between each other.

*Habitat*.—Panama.

*Type*.—Cat. No. 55,320 U. S. N. M.; Signal Loma, three miles south of San Isabel, north coast of Panama; C. G. Holland, collector.

*Description of type specimen*.—Tongue longer than broad; palatine teeth in a nearly straight line across the whole width of the palate behind the choanae, interrupted in the middle; vomerine series V shaped, converging behind, ending anteriorly in an elevation in front of the choanae; snout with a short, compressed, pointed, dermal flap; upper eyelid with a median triangular dermal pyramid ending in a pointed conical tubercle; distance between nostrils slightly less than half their distance from tip to snout, and half their distance from orbit; width of upper eyelid equal to distance of nostrils from snout; interorbital space twice as wide as upper eyelid; distance between points of horns of helmet much less than their distance from tip of snout; posterior outline of casque rounded; tympanum very distinct, its longest diameter more than three-fourths the diameter of orbit; a bony tubercle at angle of mouth; fingers long, slender, with a rudiment of web and well-developed disks, first much longer than second; toes one-third webbed with well-formed disks, third slightly shorter than fifth; a single metatarsal tubercle; a small dermal heel flap; the hind leg being carried forward along the body, the tibio-tarsal articulation extends forward to between the eye and tip of the snout; skin on top of head involved in the cranial ossification, finely granular; skin on back smooth, on throat and chest smooth with scattered tubercles; belly granular with the tubercles more closely set. Color (in alcohol) brownish drab above, without any distinct pattern of darker markings; a narrow whitish ring around the eye, and a similar line along the upper lip, more or less interrupted by brown; legs indistinctly cross-barred; the posterior aspect of the femur with indistinct white spots, behind which a dark brown line; underside whitish with indistinct brownish marblings; a dark brownish line on the inner side of the arm.

#### DIMENSIONS.

	mm.
Tip of snout to vent . . . . .	.60
Tip of snout to nostrils . . . . .	6
Tip of snout to anterior rim of orbit . . . . .	13
Tip of snout to posterior edge of tympanum . . . . .	28
Tip of snout to tip of occipital horn . . . . .	33
Distance between tips of occipital horns . . . . .	27
Distance between nostrils . . . . .	3.5
Distance of nostrils from orbit . . . . .	7
Interorbital width . . . . .	12
Width of upper eyelid . . . . .	6
Greatest width of head . . . . .	32
Forelegs from axilla . . . . .	40
Hind legs from vent to tip of longest toe . . . . .	99
Tibia . . . . .	33

*Remarks*.—This species appears closely allied to *Cerathyla bubalus*

Espada, from the Andes of Ecuador and Peru, but differs in the much wider interorbital space and in the longer snout.

With the adult specimen described above, there is a very young one (No. 55,321, U. S. N. M.), only 17 mm. long, but fully developed. It has evidently just been severed from its mother, as the two strings, issuing one on each side from the chest near the shoulder look as if they had just been ruptured. When received, the mother specimen had the back covered with a loose flap of skin which came off easily when gently lifted by the forceps. On the exposed side of this flap there are about 12 pairs of whitish cords, apparently freshly ruptured and similar to the ones on the chest of the young one, which indicate that at least so many young ones had been attached to the mother's back just previous to capture. This condition fully bears out the account given by Boulenger of the closely related *Cerathyla bubalus* carrying its eggs on the back (Proc. Zool. Soc. London, 1903, vol. 2, pp. 115-116). The young ones evidently undergo their entire development while attached to the mother, after which the skin of her back, to which the eggs adhered, sloughs off. On the piece of skin shed there are distinct impressions of the outlines of the eggs, apparently at least 14. This would indicate a larger number of eggs than in *C. bubalus*, in the specimen of which recorded by Boulenger there were only 9.

In the adult specimen the neural spines of the dorsal vertebræ protrude on the back like a series of saw-teeth. It is also worthy of notice that the diapophyses of the sacral vertebræ are distinctly dilated.

